

# Quadratic

Shape: parabola

$$y = ax^2$$

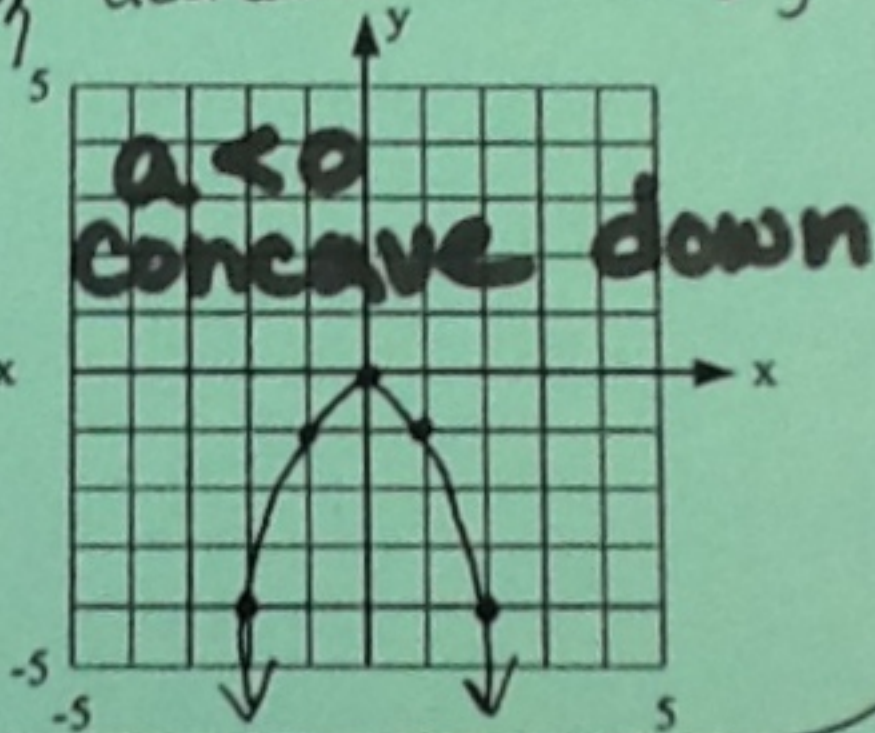
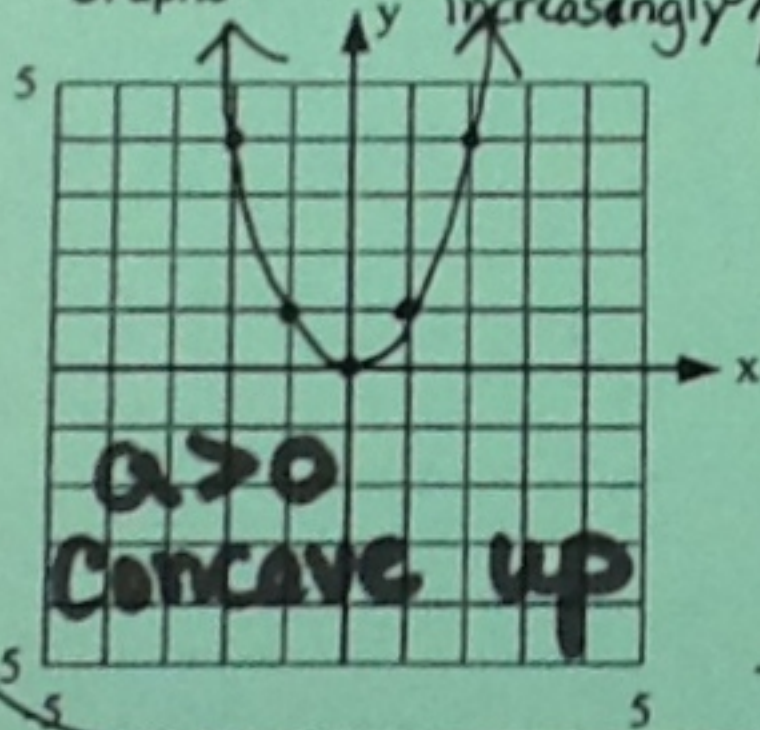
Words for phrases describing the patterns in the graphs below:

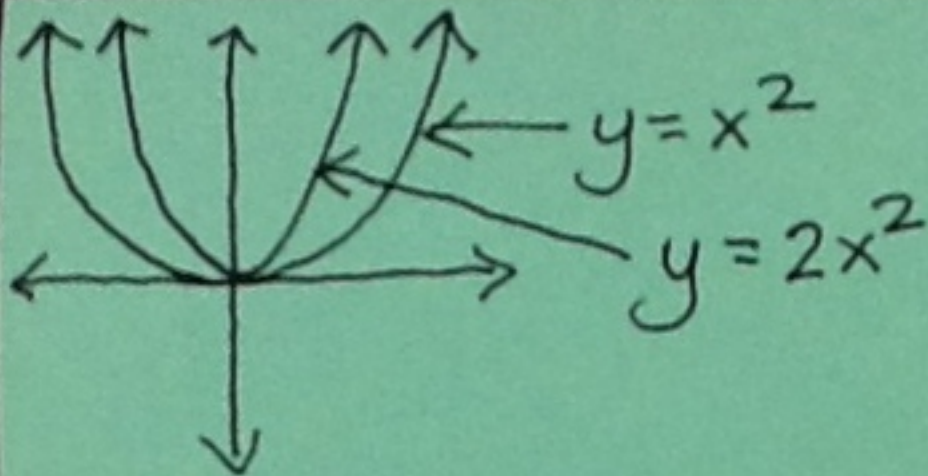
When  $a > 0$

As  $x$  increases constantly,  
 $y$  decreases decreasingly  
until its minimum, then  
increases increasingly

When  $a < 0$

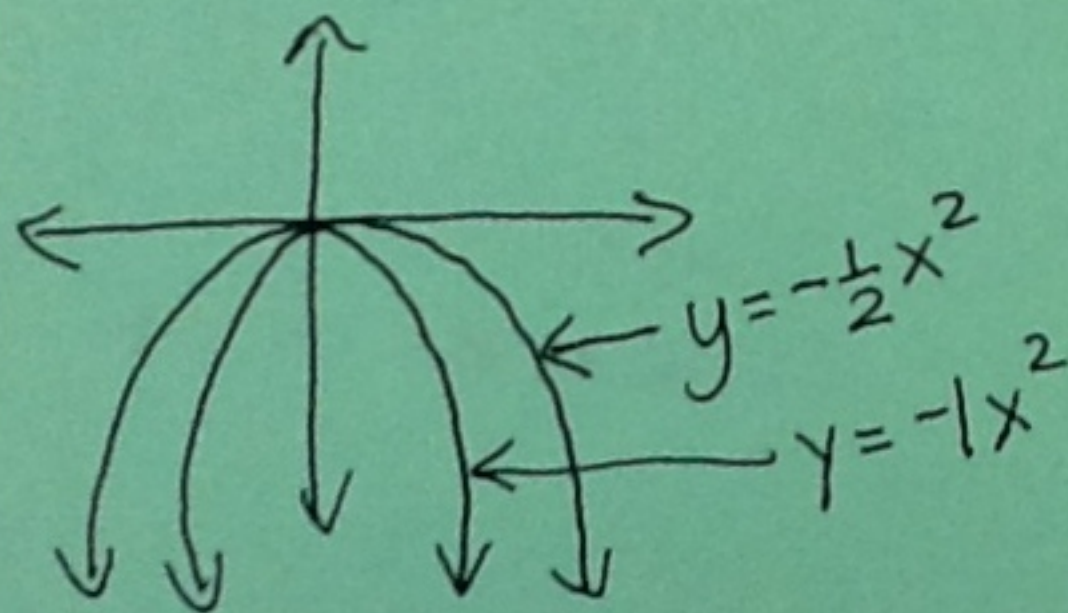
As  $x$  increases constantly,  
 $y$  increases decreasingly until  
its maximum then  
decreases increasingly





As the "a-value" gets closer to zero the parabola will be wider.

The smaller the  $|a|$  the wider the parabola



The larger the  $|a|$  the thinner the parabola